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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,082	02/09/2005	Keith Alan Charlton	133088.00201(P35262US)	8653

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EXAMINER	
NAVARRO, ALBERT MARK	
ART UNIT	PAPER NUMBER
1645	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,082	CHARLTON ET AL.	
	Examiner	Art Unit	
	Mark Navarro	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-12,17-20,24-29,32 and 33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-12,17-20,24-29,32 and 33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *multiple*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 10, 2008 has been entered.

Claims 3-5, 13-16, 21-23 and 30-31 have been cancelled, consequently, claims 1-2, 6-12, 17-20, 24-29 and 32-33 are pending in the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. The rejection of claims 19-20, 24-29 and 32 are rejected under 35 U.S.C. 102(e)

as being anticipated by Kende et al is maintained.

Applicants are asserting that Kende fails to anticipate the claims because Kende fails to disclose a monoclonal antibody that "specifically binds to the free soluble form of the antigen in the presence of conjugated derivatives thereof." Applicants further assert that the antibodies of the Kende reference are raised against antigens conjugated to a carrier molecule. Applicants conclude that antibodies that bind to the antigen when conjugated to a carrier molecule (such as the type disclosed by Kende) will ***not always*** and necessarily recognize the soluble free form of the antigen. Applicants further point to Table 2 of the instant application which shows that a concentration as low as 11 μM dDHL-COOH was sufficient to reduce the binding of the G3H2 antibody to the conjugate by half.

Applicants arguments have been fully considered but are not found to be persuasive.

First, Applicants assert that Kende fails to anticipate the claims because Kende fails to disclose a monoclonal antibody that "specifically binds to the free soluble form of the antigen in the presence of conjugated derivatives thereof." However, Applicants are again reminded that Kende et al disclose a monclonal antibody to the identical molecule as claimed, N-butanoly-L-homoserine lactone. (See claim 4 of Kende et al vs. claim 20 of the instant application). The recitation of "specifically binds to the free soluble form of the antigen in the presence of conjugated derivatives thereof" is merely an inherent property of the monoclonal antibody.

Second, Applicants further assert that the antibodies of the Kende reference are raised against antigens conjugated to a carrier molecule and conclude that antibodies that bind to the antigen when conjugated to a carrier molecule will ***not always*** and necessarily recognize the soluble free form of the antigen. However, claims 19-20, 24-29 and 32 all claim a monoclonal antibody based on its method of production (e.g., selected from a human antibody phage display library). "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Since the Patent office does not have the facilities for examining and comparing Applicants product with the product of the prior art reference, the burden is on Applicants to show an unobvious distinction between the material structural and functional characteristics of the claimed product and the product of the prior art. *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).

Finally, Applicants assert that Table 2 of the instant application shows that a concentration as low as 11 μM dDHL-COOH was sufficient to reduce the binding of the G3H2 antibody to the conjugate by half. However, Applicants will hopefully appreciate that the monoclonal antibody of the instant application still retained binding to the conjugate. Accordingly, even if Applicants could show that the monoclonal antibody of Kende, elicited to the identical molecule as claimed, N-butanoly-L-homoserine lactone,

demonstrated binding ability for the "free soluble form in the presence of conjugated derivatives" it would still have the identical properties of the monoclonal antibody of the instant invention.

The claims are drawn to a monoclonal antibody to a molecule of a homoserine lactone of Formula I, specifically N-butanoly-L-homoserine lactone.

Kende et al (US Patent Number 6,713,059) disclose of monoclonal antibodies to N-butanoly-L-homoserine lactone. (See claim 4). Kende et al further disclose of methods of treating or preventing an infectious disease comprising administering the antibody to a subject. (See paragraph 23). Kende et al futher disclose of single chain antibodies. (See paragraph 39).

For reasons of record as well as the reasons set forth above, this rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The rejection of claims 1-2, 6-12, 17-20, 24-29, and 32 under 35 U.S.C. 103(a) as being unpatentable over Kende et al in view of McCafferty et al is maintained.

Applicants assertions are the same as those set forth above in rejection number 1 (that the combination of references does not yield a monoclonal antibody that specifically binds to the free soluble form of the homoserine lactone in the presence of a conjugated derivative). Applicants arguments have been fully addressed in rejection number 1 above.

The claims are directed to a method for the treatment of a bacterial infection of a subject comprising administering to said subject a monoclonal antibody, wherein said monoclonal antibody is selected from a naïve human antibody phage display library by screening the library against a homoserine lactone molecule of Formula I, wherein said antibody specifically binds to the free soluble form of the homoserine lactone or a C_1-C_{10} saturated or unsaturated carboxylic acid derivative thereof in the presence of conjugated derivatives thereof.

The teachings of Kende et al are set forth above.

Kende et al do not teach of selecting a monoclonal antibody from a naive human antibody phage display library.

McCafferty et al (Nature Vol. 348, No. 6301, pp 552-554, Dec. 1990) teach that at the time of the instant application, it was routine to select monoclonal antibodies from a naïve human antibody phage display library. (See abstract).

Given that Kende et al have taught of methods for the treatment of a bacterial

infection of a subject comprising administering a monoclonal antibody which binds a homoserine lactone molecule of Formula I, and that McCafferty et al have taught that it was routine in the art to select monoclonal antibodies from a naïve human antibody phage display library, it would have been prima facie obvious to have substituted a monoclonal antibody which binds a homoserine lactone molecule of Formula I from a naïve human antibody phage display library as taught by McCafferty et al for use in the method as taught by Kende et al.

The U.S. Supreme Court has very recently addressed the obviousness of a combination of known elements. A rigid application of the Court of Appeals for the Federal Circuit's "teaching, suggestion, or motivation" test was rejected, the Court stated that a "combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR International Co. v. Teleflex Inc. et al.,* No. 04-1350, slip op. at 12 (S. Ct., April 30, 2007).

For reasons of record, as well as the reasons set forth above, this rejection is maintained.

The following new grounds of rejection are applied to the claims:

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-2, 6-12, 17-20, 24-29, and 32-33 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 10/599,355. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims encompasses methods of using monoclonal antibodies to a homoserine lactone molecule of Formula I.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 1-2, 6-12, 17-20, 24-29, and 32-33 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims of copending Application No. 11/568,673. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of

claims encompasses methods of using monoclonal antibodies to a homoserine lactone molecule of Formula I.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Navarro whose telephone number is (571) 272-0861.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Mondesi can be reached on (571) 272-0956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Navarro/
Primary Examiner, Art Unit 1645
April 23, 2009